JSF Program and
Interoperability
DAU
8 June, 2004

# JSF Is a Multi-Service, Global Program

## F-35A

CTOL
(USAF)

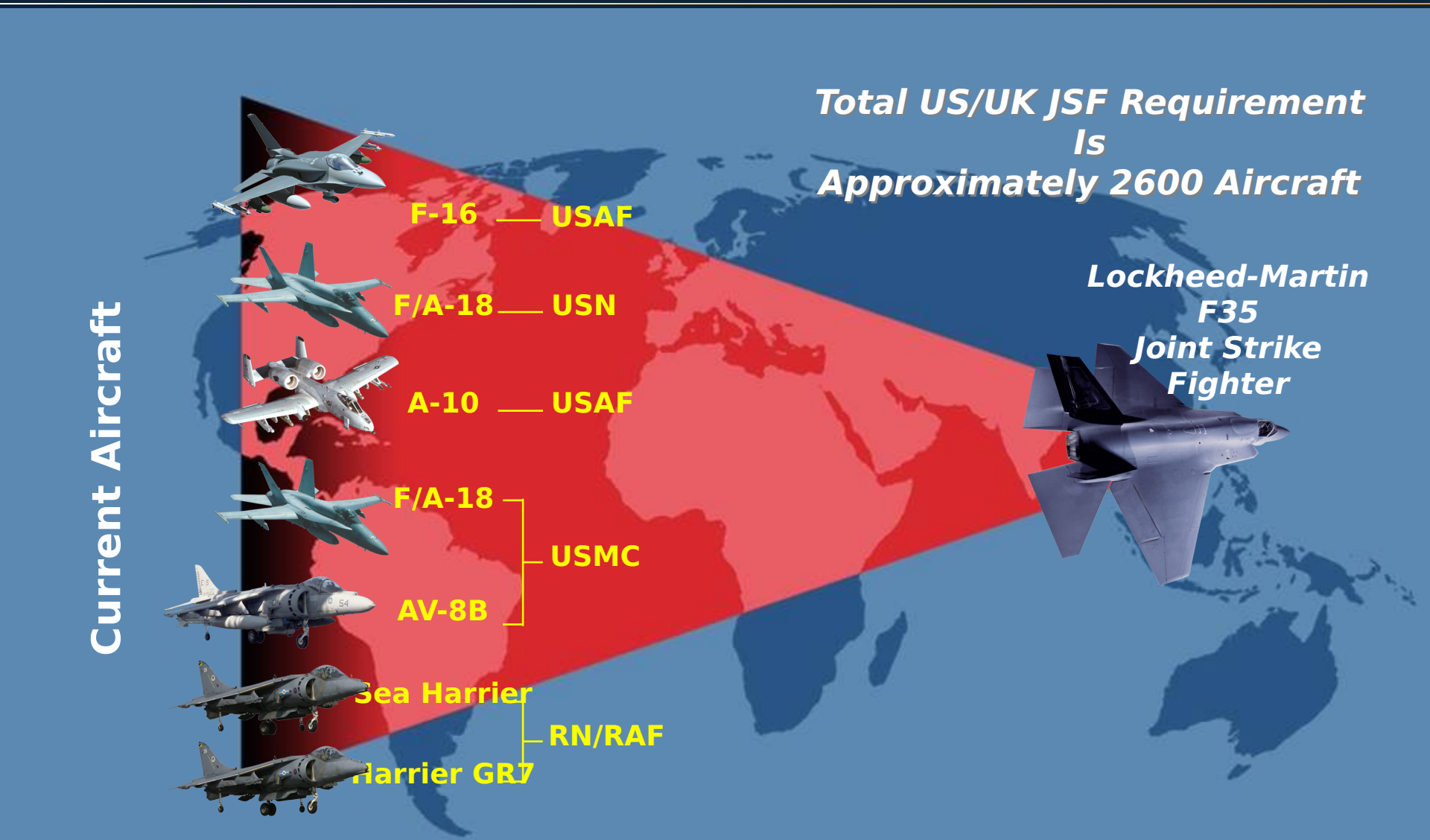
## F-35B

STOVL
(USMC and UK)

## F-35C

CV
(USN)

# JSF Enables True Joint, Coalition Operations

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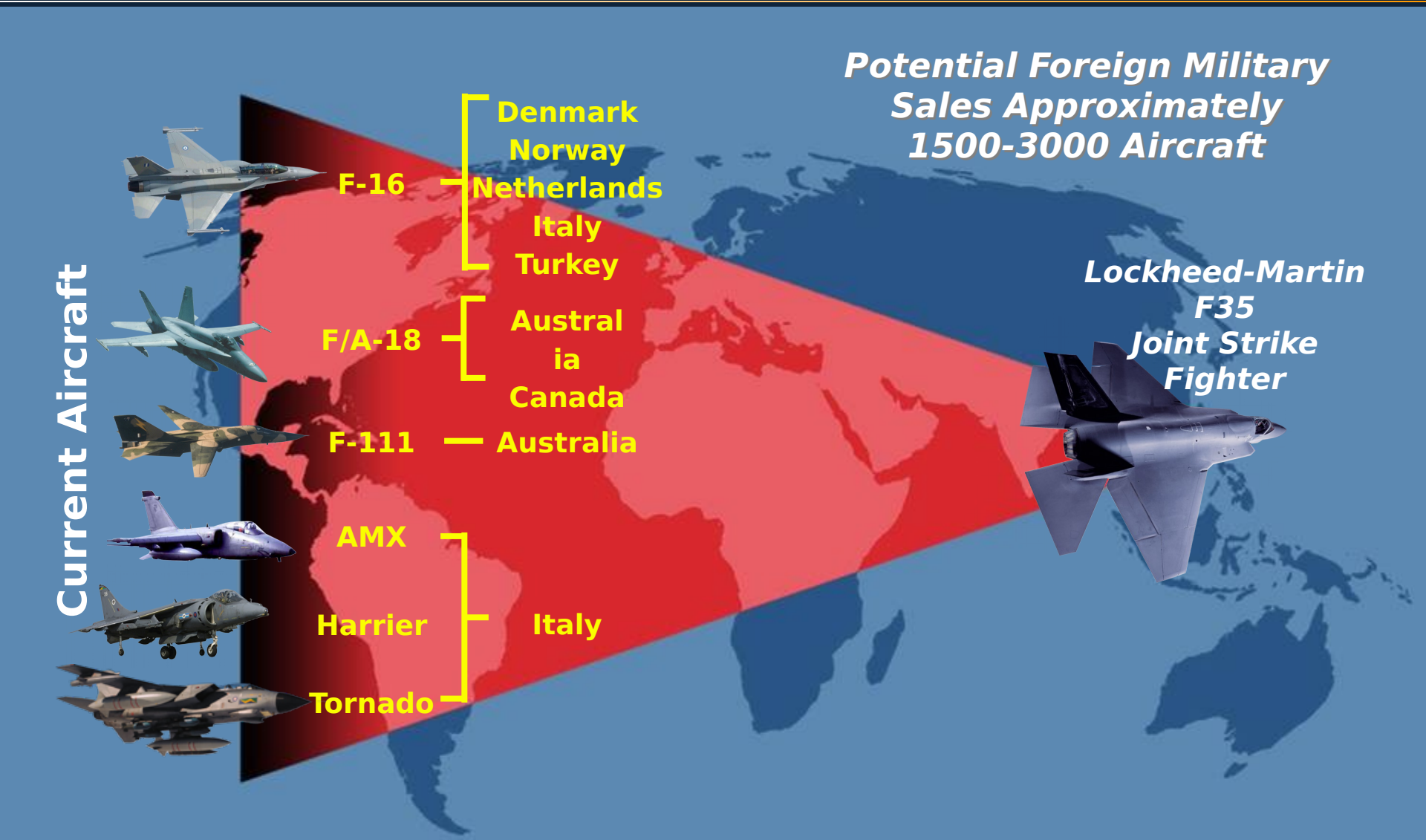
# JSF Enables True Joint, Coalition Operations

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# *Future … with F-35*

- **F-35 Creates Truly Global, Highly Effective**

  **Fighter Force**

- **Coalition Package Able to Tackle Heavily Defended Targets**

- **Closes Aerospace "Capability Gap"**

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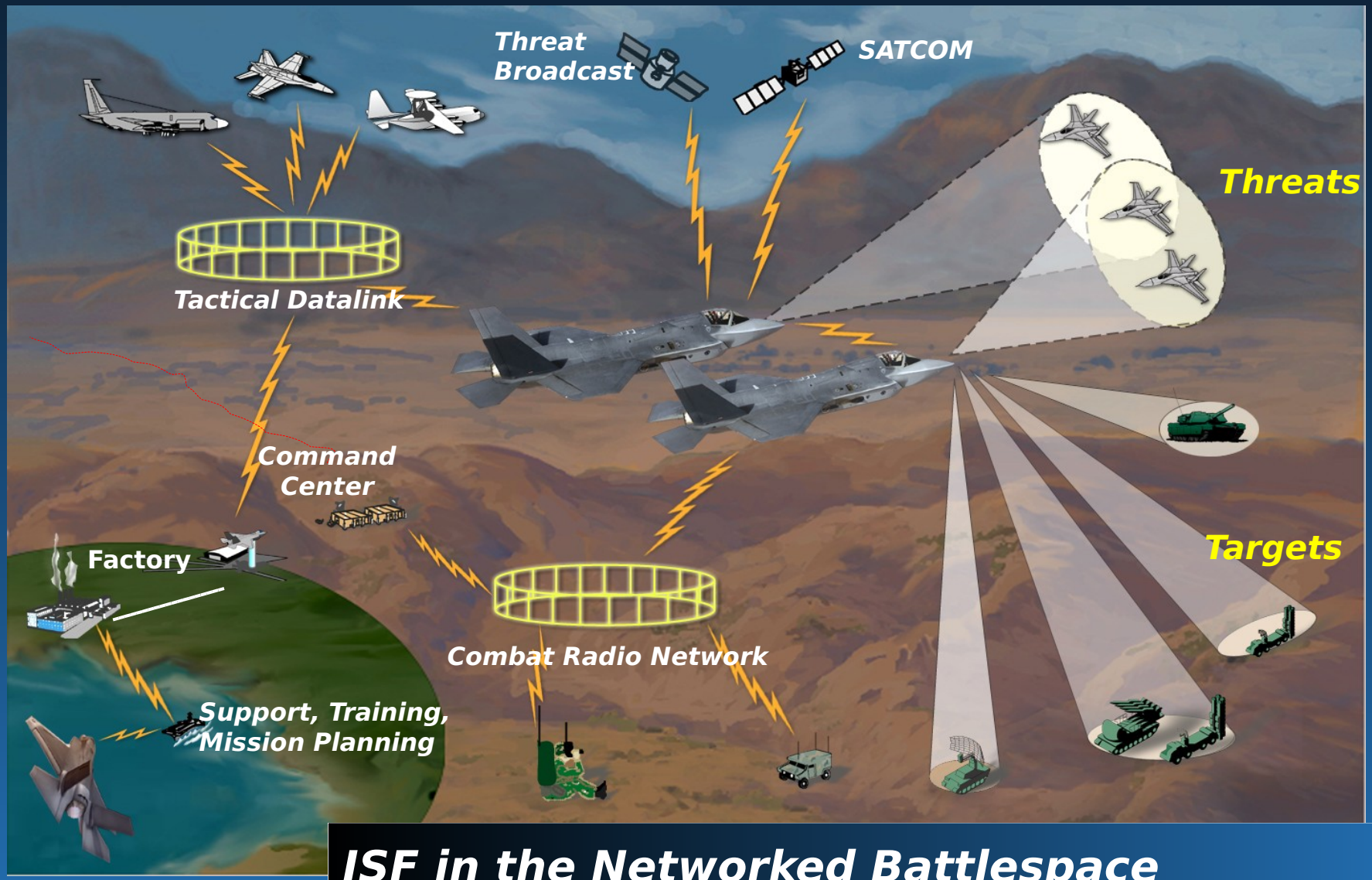
# JSF's Fifth Pillar - Interoperability

# Interoperability – One of Eight JSF KPPs

| KPP | USMC | USAF | USN | UK |
|---|---|---|---|---|
| Radio Frequency Signature | Very Low Observable | | | |
| Combat Radius | 450 nm USMC Profile | 590 nm USAF Profile | 600 nm USN Profile | 450 nm UK Profile |
| Sortie Generation | 4 Surg / 3 Sust | 3 Surg / 2 Sust | 3 Surg / 2 Sust | 3 Surg / 2 Sust |
| Logistics Footprint | < 8 C-17 equivalent loads (20 PAA) | < 8 C-17 equivalent loads (24 PAA) | < 46,000 cu ft 243 ST | < 21,000 cu ft 102 ST |
| Mission Reliability | 95% | 93% | 95% | 95% |
| Interoperability | Meet 100% of Critical, Top-level Information Exchange Requirements | | | |
| STOVL Msn Performance<br>Short Take-Off Distance | 550’<br>2 x 1K JDAM, 2 x AIM-120 With Reserve Fuel | N/A | N/A | 450’ ski-jump<br>2 x 1K JDAM, 2 x AIM-120 With Reserve Fuel |
| Maximum Approach Speed | Vertical Lift Bring Back | N/A | 145 knots | |

Joint ★ USMC/UK ★ US Navy ★

# Improved Combat Effectiveness for Joint Commanders




## JSF in the Networked Battlespace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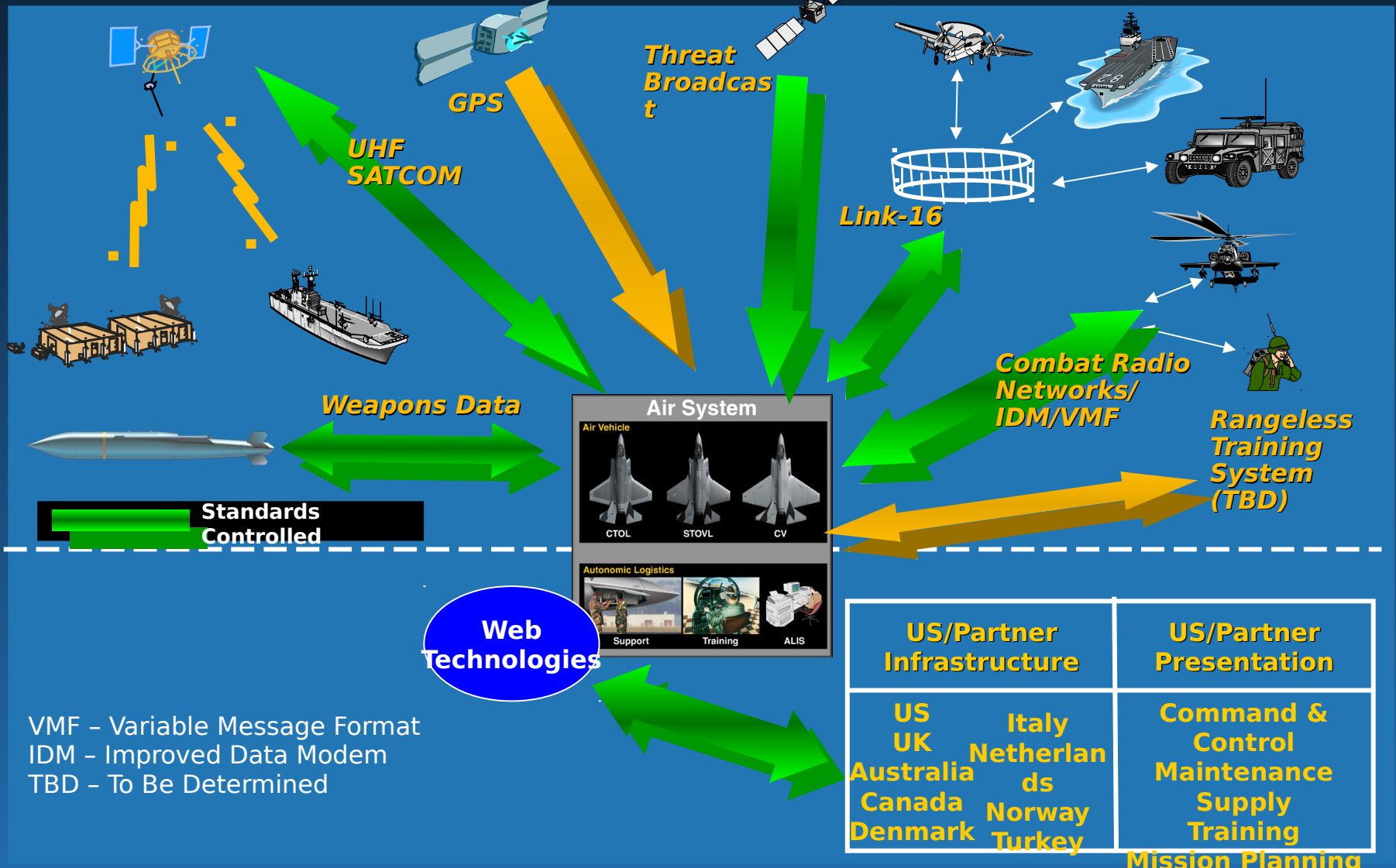
# JSF Design Approach Addresses Interoperability Complexity




| US/Partner Infrastructure | US/Partner Presentation |
|---|---|
| US<br>UK<br>Australia<br>Canada<br>Denmark<br>Italy<br>Netherlands<br>Norway<br>Turkey | Command & Control<br>Maintenance<br>Supply<br>Training<br>Mission Planning |

VMF – Variable Message Format
IDM – Improved Data Modem
TBD – To Be Determined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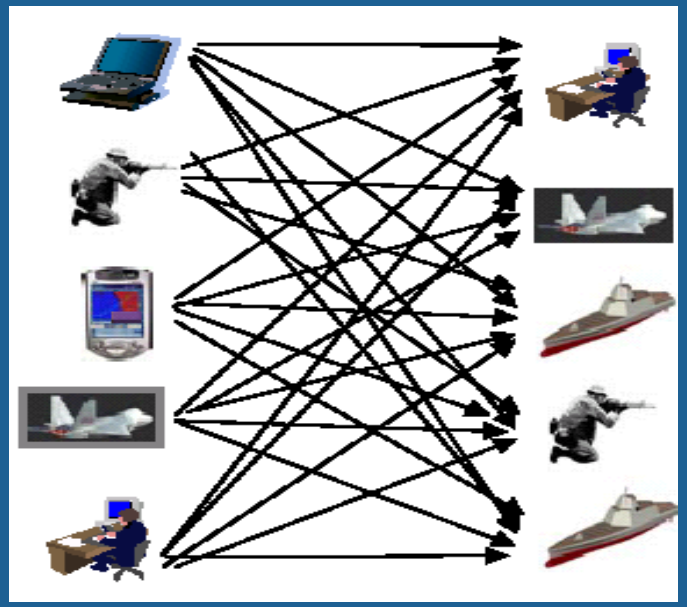
# The DoD Net Centric Transformation

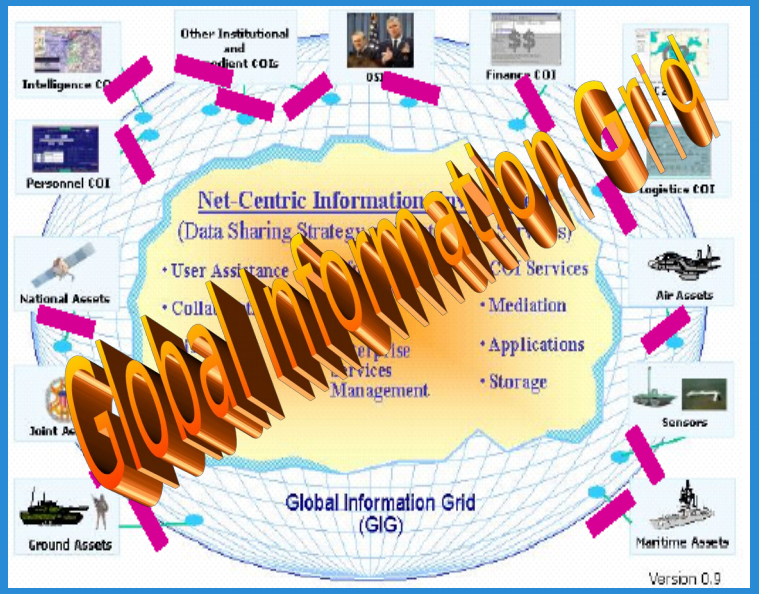
## Present Environment



### *One-to-One Exchanges*

- **Measured by an Interoperability KPP**
- **KPP Defined by Information Exchange Requirements**

## Net-Centric Environment




### *One-to-Many Exchanges*

- **Measured by a Net Ready KPP**
- **KPP Defined by 4 Global Information Grid Attributes**

***JSF Architecture Designed to Adapt as Requirements Solid***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# JSF Interoperability

- **Improving US and Coalition Warfighter Combat Effectiveness**
- **Improving Logistics Support**
- **Enabling New Approaches To Strike Operations**

## Enabled By

**Common and Interoperable Avionics Systems**

3000 US Aircraft Built to Same Interoperability Standards

*6000 Including International Partners*

**Robust Strike Fighter Communications Capability**

*(In-Flight Data Link, Link-16, VMF, SATCOM)*

**Web Based Logistics Information System**


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# Conclusion

- **Why We are Focusing on Interoperability**
  - ***Information Sharing and Collaboration Enhance Mission Effectiveness***
  - ***JSF Mission Effectiveness Requires Interoperation with US and Coalition Ground, Sea and Air Forces***
- ***The Challenge Ahead***
  - **Delivering What We Promised to the Warfighter**
  - **Coping With Change to External Systems and Architectures**

“We Judge Ourselves By Our Intentions,
But Others Judge Us Mostly By Our Actions
X-35C
Questions
JOINT STRIKE FIGHTER
JSF
F-35
LETHAL SURVIVABLE SUPPORTABLE AFFORDABLE